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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,781	01/12/2002	Rico Cheng	67,200-604	3009

7590

11/14/2003

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EXAMINER

OJINI, EZIAMARA ANTHONY

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 11/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application N .

10/045,781

Applicant(s)

CHENG ET AL.

Examiner

Anthony Ojini

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7-12 is/are rejected.
- 7) ☒ Claim(s) 3-6 and 13-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Applicant's election with traverse of Group I, claims 1-17 and cancellation of claim of non- elected Group II, claims 18-20 in Paper No. 3 are acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher, Jr. et al. (6,045,434) in view of Meloni (6,264,532) and Moore (6,609,947).

With respect to claims 1,9,10, Fisher, Jr. et al. disclose a dual wafer slippage sensor holder apparatus, comprising a holder (40) designed to hold a plurality of sensors (28a, 28b) at an angle to a vertical plane (see fig 1); a rotatable polishing pad (14) for polishing a semiconductor wafer using slurry; an oppositely rotatable platen (12) underneath the polishing pad (see fig. 1).

Fisher, Jr. et al. fail to disclose the body includes a window to allow the sensors to detect wafer slippage and a cover situated over the window over the body to prevent slurry from spraying and drying onto the sensors during high-pressure rinse cleaning of a platen of the CMP semiconductor fabrication equipment.

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Moore discloses optical sensor (166) that includes an optically transmissive window (144) to allow the sensor to receive return light pulses emitted from a light source (162) onto a microelectronic substrate (12).

Meloni discloses a cover (129) that covers an ultrasonic detector (320) (a form of sensor) that prevents slurry (350) from spraying and drying onto the sensor.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of Fisher, Jr. et al. with a cover that covers an ultrasonic detector and an optically transmissive window to allow the sensor to receive return light pulses emitted from a light source onto a microelectronic substrate in view of Meloni and Moore so as to prevent slurry from spraying and drying onto the sensors during polishing.

With respect to claims 2,12, Fisher, Jr. et al. disclose the body (40) holds the sensors (28a, 28b) horizontally opposite configuration from one another (see fig. 1).

With respect to claims 7,8,11, Fisher, Jr. et al. fail to disclose the optimum values as claimed by the applicant.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of Fisher, Jr. et al. with the optimum values as claimed by the applicant, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Allowable Subject Matter

Claims 3-6,13-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Aiyer and Wiswesser et al. disclose apparatus that utilizes optical light rays on a workpiece.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Ojini whose telephone number is 703 305 3768. The examiner can normally be reached on 7.30 to 5.00 Tuesday-Friday with every other Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 703 308 2687. The fax phone number for the organization where this application or proceeding is assigned is 703 308 3590.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 1148.

